

1111-0000 1.1

AUTHORS: Barkov, L.M., Makar'in, V.K., Mukhin, K.N. 89-7-13/32

TITLE: Measuring of the Diffusion Length of the Thermal Neutrons in Ice
(Izmereniye diffuzionnoy dliny teplovykh neytronov vo l'du)

PERIODICAL: Atomnaya Energiya, 1957. Vol. 3, Nr 7, pp. 54-55 (USSR)

ABSTRACT: In an ice prism of $100 \times 100 \times 130 \text{ cm}^3$ the authors carried out measurements of the distribution of the density of the thermal neutrons which occur with slowing down of neutrons of a ^{235}U - Be source. The source was fitted into the center of the prism and an indium foil (by means of which the density of the thermal neutrons was measured) was irradiated at various distances from the source in channels within the prism. ($17.4 \text{ R} \approx 31 \text{ cm}$). For the purpose of eliminating the influence exercised by the cavity, the indium foil was irradiated inside ice rods which were fitted within the channels. The activation due to the resonance neutrons is infinitely small in the intervals $R \approx 17 \text{ cm}$ because the density of the resonance neutrons at increasing distance from the source decreases rapidly. The activation by the resonance neutrons at $R = 17 \text{ cm}$ amounts to only 0.1% of the entire activation of the foil. The method of the measurements was described already in one of the authors previous works. The diffusion length for ice at

Card 1/2

Measuring of the Diffusion Length of the Thermal Neutrons
in Ice

89-7-13/32

$t^0 = -14^{\circ}\text{C}$ amounted to $L_i = 2.85 \pm 0.05$ cm. The density of the ice was determined hydrostatically and amounted to 0.89 ± 0.01 g/cm³. The value obtained for the diffusion length L_i of the thermal neutrons in ice can be compared with the previously measured diffusion length of the neutrons in water: $L_w = 2.68 \pm 0.02$ cm. When comparing the value, the various ranges of the absorption σ and the transition τ_r for water and ice must be taken into account. Next, some details are discussed. The agreement of the experimental value for L_i with that of L_w (by taking account of the dependence of the ranges σ and τ_r upon the density and the temperature) indicates a slight influence of the modification of the chemical binding upon the diffusion length on the occasion of transition from water to ice. ($L \approx 0.1$ cm). There is 1 Slavic reference.

SUBMITTED: February 5, 1957

AVAILABLE: Library of Congress

1. Neutrons - Diffusion - Measurement
2. Ice - Applications

Card 2/2

MUKHIN, K.N.; MAKAR'IN, V.K.; VENEDIKTOV, A.P.

[Diffusion of thermal neutrons in anisotropic media,
Diffuziia teplovykh neutronov v anizotropnykh sredakh.
Moskva, Glav. upr. po ispol'zovaniyu atomnoi energii,
1960, 19 p. (MIRA 17:2)

38150

261244

S/058/62/000/004/033/ 160
A058/A101

AUTHORS: Mukhin, K. N., Makar'in, V. K., Venediktov, A. P.

TITLE: Thermal neutron diffusion in anisotropic media

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 61, abstract 4B457
(V sb. "Neytron. fizika". Moscow, Gosatomizdat, 1961, 198 - 210)

TEXT: The authors describe measurements of thermal neutron diffusion in lead-water plane and rod lattices. A photoneutron Sb + Be source was used. Special measures were taken so that the distribution of neutron sources would be close to plane. The distribution in density of thermal neutrons was measured by the indium detector method. The authors arrived at the following conclusions: 1) for plane lattices, experimental results coincide with theoretical calculations; 2) diffusion anisotropy L^2/L_0^2 in plane lead-water lattices can attain magnitudes of ~ 2 , and in rod lattices, ~ 1.5 .

A. Kamayev

[Abstracter's note: Complete translation]

Card 1/1

L 58338-65 EWT(m)/EPA(w)-2/ENA(m)-2 Pub-10/Pt-7 LJP(c)
 ACCESSION NR: AT5010446 UR/5136/64/000/104/0001/0009

AUTHOR: Makar'in, V. K.; Marten'yanov, V. F.

TITLE: Charging unit for the supply of the "pulsed magnetic field" apparatus

SOURCE: Moscow. Institut atomnoy energii. Doklady, no. 104, 1964. Zaryadnoye ustroystvo dlya pitaniya ustanovki "Impul'snyye magnitnyye polya," 1-9

TOPIC TAGS: charging unit, accelerator charging, ignitron rectifier

ABSTRACT: A power supply is described for the production of pulsed magnetic fields in bubble, spark, and emulsion chambers used with high-energy particle accelerators. The pulsed magnetic field is produced by discharging a capacitor bank through an inductance coil. The equipment is capable of high energy storage (~ 6950 kJ). Because of the use of ignitrons in the rectifier circuit and because of the inductive properties of the circuit, the battery is never discharged completely. It is recharged between the accelerator discharges, which are produced at intervals from 2 to 10 seconds. The article describes the circuit and the operating principle, the automatic control, and the protective devices. The rectifier was used to charge a capacitor bank of 0.162 F capacitance to 4.5 kV. With the

Card 1/2

L 58338-65

ACCESSION NR: AT5010446

2

battery discharged to 3.5 kV, the rectifier is able to restore the initial 4.5 kV voltage within approximately 5 seconds. "The authors thank I. I. Gurevich and E. N. Mukhin for continuous interest in the work and S. V. Leonov for help with the assembly of the charging unit." Orig. art. has 8 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EE, NP

NR REF SOV: 000

OTHER: 000

Card 2/2

L 1374-66 EWT(m) DIAAP

ACCESSION NR: AT5022306

UR/3136/65/000/795/0001/0020

AUTHOR: Makar'in, V. K.; Martem'yanov, V. P.

TITLE: A "pulsed magnetic fields" device

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-795, 1965. Ustanovka Impul'snyye magnitnyye polya, 1-20

TOPIC TAGS: pulsed magnetic field, bubble chamber, magnet, solenoid

ABSTRACT: The successful use of bubble chambers with "heavy" fillers (such as xenon) requires high magnetic fields in the volume of the chamber. A device producing high pulsed magnetic fields for use with high-energy particle accelerators has been designed and constructed. It consists of a charger, energy accumulator, discharge unit, and pulse magnets. The device has produced pulsed magnetic fields with $\bar{H} = 65$ kOe in a 12-liter volume and $\bar{H} = 100$ kOe in an 8-liter volume. The design and operation of each unit of the device are discussed, and the corresponding photographs and diagrams are provided. "The authors thank I. I. Gurevich and K. N. Mukhin for their steady interest in the work, and S. V. Leonov for assistance in assembling the device." Orig. art. has: 9 figures and 2 tables.

Card 1/2

22
B+

L 1874-66

ACCESSION NR: AT5022306

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NO REF SOV: 000

OTHER: 005

mlr
Card 2/2

JS OK

ACC NR: A6013510

TRN 10/200/100 10/27/101

AUTHOR: V. K. Martin, V.K.; Martin, V.K.

ORG: Institute of Atomic Energy, Moscow (Central Atomic Energy)

TITLE: Installation for the creation of a raised magnetic field of 100 in a volume of 3 liters

SOURCE: Priroda i tekhnika eksperimenta, no. 2, 1966, 147-151

TUPIC WORDS: magnet, magnetic field, high magnetic field, capacitor, thyatron, bubble chamber instrumentation, IM-5-150 condenser, TR1-40-15 thyatron

ABSTRACT: This paper describes a new type of magnetic field installation designed for use in heavy filler bubble chambers. The installation consists of 1) energy storage, 2) charging control, 3) discharge control, and 4) the impulse magnet (a solenoid). The energy storage uses 1000 IM-5/150 condensers connected in parallel by sections, with safety provisions. The total capacity is .162 farads, which gives 1650 kilojoules of energy at 4.5 kv. The discharge control subsystem operates on the principle of partial automatic opposite sign recharge of the condenser bank by the oscillatory current surge. Thus most of the energy is saved and the condenser bank can be recharged in five seconds (a charge from 3.5 to 4.5 kv. only is needed). The charging is done by a three-phase rectification circuit using six TR1-40/15 thyratrons based upon a TMA-1000/35 anodic transformer (6.3 kv). Two impulse magnets were constructed

U.C.: 539.1.076

Card 1/2

ACC NR: AP0013516

and are described in detail. The coil windings are of square 21x21 mm copper tubing with a 12 mm inside diameter passage for the cooling water. The coil confinement is effected by 30 mm thick rings of fiberglass textolite plastic. The insulation is by 1 mm thick getinax plastic rings, radially cut once and conventionally overlapped by a 180° relative rotation. Solenoid #1, with an inside volume of 12 liters, 175 ka current amplitude and a 65 kOe average magnetic field strength sustained 1500 magnetic load applications to failure - by fracture of no. 8 confining ring. The stronger, smaller (8 liters inside volume) solenoid # 2, with a 220 ka current and a 100 kOe average magnetic field strength sustained 5300 load applications to failure, which was by short circuit at edge of coil. Design and development comments are given. Orig. art. has 5 figures and 2 tables.

SUB CODE: 20,09 / SUBM DATE: 10Mar65 / ORIG REF: 000 / CTH REF: 005

Card 2/2

ACC NR: AP6025609

(N)

SOURCE CODE: UR/0413/66/000/013/0050/0050

INVENTORS: Volkov, S. N.; Makar'in, V. P.; Palevich, K. K.; Rubaylo, G. A.; Gerasimova, L. S.; Ryazantseva, V. M.; Andreyeva, I. I.; Semenova, A. G.

CRG: none

TITLE: A machine for contact spot welding. Class 21, No. 103300

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 50

TOPIC TAGS: welding, spot welding, welding technology, welding equipment

ABSTRACT: This Author Certificate presents a machine for contact spot welding. The machine contains a frame and welding transformers, each of which is electrically connected to a group of welding guns (see Fig. 1). To increase the productivity, the welding transformers together with the corresponding group of welding guns are mounted on the vertical planes of plates which move under the action of a driving mechanism located on the frame. The movement takes place along the horizontal guides also located on the frame. Rods attached to one of the plates serve as auxiliary guides for another plate. These rods are intended for fixing the plates

Card 1/2

UDC: 621.791.763.1.037...

ACC NR:

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001031420019-0

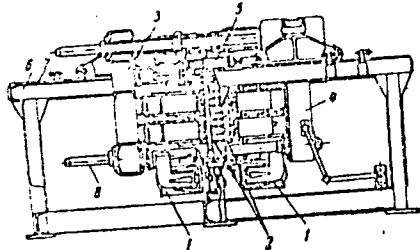


Fig. 1. 1 - welding transformers; 2 - welding guns; 3 and 4 - vertical plates; 5 - driving mechanism for plates; 6 - frame; 7 - guides; 8 - rods

in their original position prior to welding. Orig. art. has: 1 figure.

SUB CODE: 13/

SUBM DATE: 16Jun65

Card 2/2

MAKAR'INA, L.A.

31541

S/627/60/002/000/024/027
D299/D304

3.24/0 (1205, 2705, 2805)

AUTHORS: Varfolomeyev, A. A., Gerasimova, R. I., Gurevich, I. I.,
Makar'ina, L. A., Romantseva, A. S., and Chuyeva, S. A.

TITLE: Electron-photon showers with energies of 10^{11} - 10^{13} ev.
in nuclear emulsions

SOURCE: International Conference on Cosmic Radiation. Moscow,
1959. Trudy. v. 2. Shirokiye atmosferye livni i kas-
kadnyye protsessy, 299-306

TEXT: A detailed investigation was carried out of 15 electron-pho-
ton showers with energies $> 10^{11}$ ev., at low depths. In contradis-
tinction to other works, the results are compared with those ob-
tained for cascades by the Monte Carlo method. Six emulsion stacks
were used, with total volume of about 10 liters. In 5 of the
stacks of emulsion Р-НИКФУ (R-NIKFI), the grain density of relati-
vistic electrons was 30 - 35 grains per 100 μ . The energy E_{γ} of
primary quanta which generate the shower, was determined from the

Card 1/4

31541
S/627/60/002/000/024/027
D299/D304

Electron-photon showers ...

number of cascade electrons of energy higher than $\mathcal{E}_c = 300$ Mev, at a depth of $2.5 - 3.0 t_0$. A table lists (for comparison) the values of E_f , obtained by the Monte Carlo method and by formula

$$R = \frac{1}{16,1} \left\{ 45,0 + \ln \left[\left(\frac{2x}{E} \right)^2 (1 + 140 x) \right] \right\} \quad (1)$$

where x is the distance from the pair vertex in cm; this formula is semiempirical and represents the ratio of ionization losses of pairs to those of relativistic electrons; the ionization losses are due to mutual shielding of electron and positron fields. In the experiments, particular care was taken to detect the vertices of the electron-positron pairs, formed at depths $\leq 1.5 t_0$. After determining the lateral shower distribution, the energy of the electrons of the pairs was measured by means of multiple scattering (to an accu-

Card 2/4

31541

S/627/60/002/000/024/027

D299/D304

Electron-photon showers ...

racy of 20 - 30%) for energies of up to $(5-7) \cdot 10^8$ ev. The total number of pairs formed at depths $\leq 1.0 t_0$ and $\leq 1.5 t_0$ with energies higher than (1-2) Mev, is plotted in two figures, from which it is evident that the experimental points fit better the curve which takes into consideration the influence of the medium on the bremsstrahlung (the curve obtained by Migdal's formula); the curve obtained by Bethe-Heitler's formula does not fit the experimental results. The figures also show that not one of the 15 showers under consideration is anomalous. Apparently, the majority of so-called "anomalous" showers, described in literature, can be explained by statistical fluctuations in the cascades or by improper determination of the energy of primary electron-positron pairs. Another figure exhibits the experimental curves of longitudinal shower development; here, too, no appreciable deviations from the corresponding theoretical curves are observed. A table lists data on the number of pairs formed at small distances $r < 0.5 \mu$ from the nearest electron track; these data might be useful in analyzing the cross-section for pair formation by high-energy electrons. There are 4

Card 3/4

31541
S/627/60/002/000/024/027
D299/D304

Electron-photon showers ...

figures, 3 tables and 21 references: 10 Soviet-bloc and 11 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: K. Pinkau. Nuovo Cim., 3, 1285, 1956; H. Fay. Nuovo Cim., 5, 293, 1957; J. Iwadare. Phil. Mag., 3, 680, 1958; S. K. Srnivasan, J. S. Butcher, B. A. Chartres, H. Messel. Nuovo Cim., 9, 77, 1958.

Card 4/4

Makina - R. L. H.

21(8)
 AUTHORS: Varfolomeev, A. A., Zerkalova, B. I., Kazarina, L. A.,
 Romanova, A. S., Chuyeva, S. A.

TITLE: Ionisation Along the Tracks of Electron-Positron Pairs of
 High Energy (Ionizatsiya vol'noy elektronno-positronnykh
 par vysokoy energii)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1979,
 Vol 36, Nr 3, pp 707-716 (USSR)

ABSTRACT: In the introduction the authors discuss the problem and the
 results of several already published works dealing with
 this subject. Table 1 contains for the 5 investigated showers
 (R-53, O-202, D-84, D-44 and I-107) the data of the emission
 piles in which they were recorded (see previous paper by the
 same authors, reference 7); table 2 contains a list of the
 E_1 -values according to Janossy (Janossy) (Refs 10, 12) and
 according to Chudakov (Ref 1). (Today it is possible to ob-
 tain more exact E_1 -values from curves by the Monte Carlo
 method by taking into account the influence exercised by matter on trans-
 strahlung into account. The publication of respective results
 has been announced). A very detailed chapter of this paper
 deals with gauging of the emissions (Type R-53). The follow-

Card 1/3

Ionisation Along the Tracks of Electron-Positron pairs of high energy
 The experimental data concern the track densities of five
 high-energy electron-positron pairs in these emissions. Measure-
 ments were carried out on the first pairs of electron-photon
 showers. Pair energy was determined from the energy spectrum
 of the cascade electrons at a distance of 2.5 - 3 radiation
 lengths from the vertex of the first pair. In three cases
 pair energy was nearly .10¹² ev and in two cases it was
 approximately 3.10¹¹ ev. Track density was determined by two
 methods: from the grain density in the track and from the ray
 length distribution coefficient. Comparison of the results
 for which the specific energy losses are great as the
 ionisation loss of the electron, the track density of the
 pair near the vertex can be explained by the mutual
 screening of the electron and positron during ionization. The
 results obtained are compared with the theoretical ionization
 curves for pairs calculated by A. Ye. Chudakov (Ref 1). The
 authors finally thank Professor I. I. Gurevich for his inter-
 est and discussions, A. A. Khrushchina for his help in

Card 2/3

Ionisation Along the Tracks of Electron-Positron Pairs of High Energy
 307/6-16-3-71
 evaluating measuring results, and D. E. Suroylovich and his
 group for developing the piles of emission plates. There
 are 6 figures, 2 tables, and 21 references, 3 of which are
 Soviet.

SUBMITTED: August 15, 1979

Card 3/3

VARFOLOMEYEV, A.A.; GERASIMOVA, R.I.; GUREVICH, I.I.; MAKAR'INA, L.A.;
ROMANTSEVA, A.S.; CHUYEVA, S.A.

Effect of the density of the medium on bremsstrahlung in electron-
photon showers involving energies from 10^{11} to 10^{13} ev. Zhur.
eksp. i teor. fiz. 38 no.1:33-45 Jan '60. (MIRA 14:9)
(Bremsstrahlung) (Cosmic rays)

5/811/62/000/000/003/003

AUTHORS: Varfolomeyev, A.A., Makar'ina, L.A.

TITLE: The density of conglomerates (blobs) in the traces of electron pairs and the geometric effect.

SOURCE: Yadernaya fotografiya; Trudy Tret'yego Mezhdunarodnogo soveshchaniya po yadernoy fotografii, Moskva, iyul' 1960g. K.S. Bogomolov and N.A. Perfilov, eds. Moscow. Izd-vo AN SSSR, 1962, 415-418.

TEXT: The paper presents a report on experimentation and theoretical conclusions relative to the so-called geometric effect which leads to a change in the parameters of the trace of an electron-positron pair under constant ionization losses. Ionization losses on the initial portions of the track of high-energy ($\sim 10^{12}$ ev) electron-positron pairs are attributed to the mutual screening of the electron and positron fields, when their mutual distance r does not exceed an order of $5 \cdot 10^{-3} \mu$. The theoretically predicted effect has been verified experimentally (Varfolomeyev et al., II^{me} Colloque Internat'l Photogr. Corpusc., Montréal. Presses Univ. Montréal, 1958; ZhETF, v. 36, 1959, 707). As the distance r grows up to and beyond the diameter of the sensitized grain, the density of the grains (or conglomerates) of the trace of the pair in a nuclear emulsion attains a value of $2n$ times the ionization loss; this geometric effect was first pointed out by R. Weill et al. (N.Cimento, v. 6, 1957, 413 and 1430). The present study adduces the results of measurements of the density

Card 1/2

The density of conglomerates (blobs) in the traces... S/811/62/000/000/003/003

of the conglomerates and the density of the gaps along the traces of $18 e^-/e^+$ pairs. The finding that the changes in probability of a flare-spot formation on AgBr grains are attributable to the geometric effect are very small contradicts Weill's conclusions. The traces of the 18 pairs had energies of $8.5 \cdot 10^{10}$ to $2.2 \cdot 10^{13}$ ev; they were registered in six emulsion piles with a total volume of 10 liters which were irradiated in the stratosphere. The energy of a pair was determined by the electron-cascade energy-spectrum method expounded in Varfolomeyev et al., ZhETF, v. 38, 1960, 33. The density of the traces was established from a visual determination of the density of conglomerates or blobs and from a measurement of the density of the gaps along the trace of a pair. An appreciable geometric effect is noted on the magnitude of the density of the conglomerates, but not on that of the gaps. This is attributed to growing flarespots between grains, until the distance has attained a value comparable to the diameter of a sensitized grain, $a=0.6\mu$; there is no comparable growth in the size of the gaps. Weill's inconsistent results are attributed to a possible misunderstanding of Della Corte's data (cf. N. Cim., v. 10, 1953, 958) relative to the effect of pair recombination on the probability of the flaring of AgBr grains. There are 1 figure and 6 references (3 Soviet and 3 English-language).

ASSOCIATION: Institut atomnoy energii im. I. V. Kurchatova (Institute of Atomic Energy imeni I. V. Kurchatov). Academy of Sciences. Moscow, USSR.

Card 2/2

L 8202-66 JXT(C2)

ACC NR: AT5022299

SOURCE CODE: UR/3136/64/000/620/0001/0011

AUTHOR: Gurevich, I. I.; Makar'ina, L. A.; Nikol'skiy, B. A.; Sokolov, B. V.;
Surkova, L. V.; Khakimov, S. Kh.; Shestakov, V. D.; Dobretsov, Yu. P.; Akhmanov, V. V.

ORG: [Gurevich, Makar'ina, Nikol'skiy, Sokolov, Surkova, Khakimov, Shestakov] IAE;
[Dobretsov] MIFI; [Akhmanov] LYAP OIYaI

TITLE: Asymmetry of the angular distribution of electrons in the decay $\pi^+ \rightarrow \mu^+ + e^+$
in a magnetic field of 140,000 gauss

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-620, 1954, Asimmetriya uglo-
vogo raspredeleniya elektronov pi plus $\rightarrow$ mu plus $\rightarrow$ e plus raspada v magnitnom pole
napryazhennost'yu 140 000 gauss, 1-11

TOPIC TAGS: mu meson, pi meson, positron, bubble chamber, radioactive decay

ABSTRACT: The universal V-A coupling theory applied to the determination of the an-
gular distribution of electrons in the reaction $\pi^+ \rightarrow \mu^+ + e^+$ is given by

$$\frac{dN}{d\theta} \sim 1 - \alpha \cos \theta$$

in terms of the parameter α . In order to obtain a value of α which depends on the
polarization state of the meson, an experiment was performed showing the effect coun-
tering the depolarization of the dense medium through which the meson is moving.

Card 1/2

L 8202-66

ACC NR: AT5022299

Critical magnetic fields needed to oppose the depolarizing effect, which in turn allows more accurate determination of the parameter α , were found. Only 8800 gauss were required in the hydrogen bubble chamber to counter the effect of hydrogen depolarization. However, the scatter in the value is quite large. The photographic emulsion yielded much smaller scatter but required an application of a very large magnetic field of 140,000 gauss. The value of α found in the experiment is $0.325 \pm .010$ (as compared to the theoretical value of 0.333). This value was obtained by analyzing over 66,000 events. A brief discussion is given of the effect of the magnetic field on the motion of the electron. It is shown that the electron direction must be measured with respect to the magnetic field direction after setting certain constraints on the selection of the angular range. Orig. art. has: 3 figures, 1 table, 5 formulas.

SUB CODE: 18/

SUBM DATE: 00/

ORIG REF: 005/

OTH REF: 007

nw

Card 2/2

CHUZHOVA, Z.P.; SHUPINA, L.N.; KULEVA, M.I.; MAYARINA, M.V.

Physiological and behavioral characteristics of the parasite *Streptococcus diabolus* in the tissues. *Microbiologiya* 33: 1112-1120, 1964. (MIRA 12:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy tsentr po izucheniyu i synozhdeniyu primyotivirovaniya. Moscow, January 2, 1964.

OSTROVSKIY, Yu.M.; LUKASHIK, N.K.; RAZUMOVICH, A.N.; BALAKLEYEVSKIY, A.I.;
DOSTA, G.A.; TREBUKHINA, R.V.; LARIN, R.S.; KARPUT', S.S.;
KOMAROVA, B.P.; NEPOCHELOVICH, N.S.; DVORYANINOVICH, L.N.;
MOYSEYENOK, A.G.; MANDRIK, K.A.; GALITSKIY, E.A.; MATYSIK, M.S.;
PODOBED, V.G.; MAKARINA-KIBAK, L.Ya.

Differentiation of specific and nonspecific metabolic shifts
in an acute avitaminosis B₁ caused by oxythiamine. Vop.pit.
24 no.4:41-48 JI-Ag '65. (MIRA 18:12)

1. Kafedra biokhimii (zav. - dotsent Yu.M.Ostrovskiy)
meditsinskogo instituta, Grodno. Submitted July 23, 1964.

OMEL'CHENKO, I.; MAKARINSKIY, A. [Makaryns'kyi, A.], tekhnik

Pay more attention to the construction of barns for raising
young cattle. Sil'.bud. 7 no.7:24 J1 '57. (MIRA 12:11)

1. Zaveduyushchiy Lebedinskim rayonnym otdelom po stroitel'stvu
v kolkhozakh.

(Farm buildings)

MAKAPINCHUK, L.

Electric Power Plants

Utilization of portable electric power stations. *Kinomekhanika* no. 1 (1955)

MONTHLY LIST OF RUSSIAN ARMS AND WEAPONS. Library of Congress, August, 1957. UNCLASSIFIED.

BEZSMERTNYY, I.S., kand.tekhn.nauk; SHIFRINSON, B.L., kand.tekhn.nauk;
TUSHINA, A.A., inzh.; Primalni uchastiye: GOGICHAISHVILI, P.F.,
kand.tekhn.nauk; MAKARISHCHEV, A.S., inzh. [deceased]

[Installation and adjustment of an experimental section of a closed-loop low-voltage power distribution network] Ustroistvo i naladka opytnogo uchastka zamknutoi elektroseti nizkogo napriazheniia. [Leningrad] 1962. 26 p. (Informatsionnoe pis'mo, no.3). (MIRA 16:8)

. Glavnyy inzh. Podol'skogo otdeleniya Moskovskogo oblastnogo upravleniya elektrostansiy i elektrosetey (for Makarishchev).
(Electric power distribution)

24976

9.4300 (1482/158,1160)

S/109/61/006/007/016/020
D262/D306

AUTHORS: Mikhaylovskiy, L.K., Makarishchev, V.P., Pollak, B.P.,
and Fabrikov, V.A.

TITLE: Non-linear gyromagnetic effects of a nutational
character in ferrites

PERIODICAL: Radiotekhnika i elektronika, 7, 1, 1961,
1178 - 1184

TEXT: This paper presented at a meeting of All-Union Scientific
and Technical Society of Radio Engineering and Electrical Communi-
cations im. A.S. Popov on May 12, 1960 deals with the non-linear
gyromagnetic properties of ferrites which are responsible for the
amplification of IF and permit the increase of the mixing effi-
ciency of ferrite mixers, result from the nutational oscillations
of magnetization. The nutational oscillations mentioned above have
been predicted from theoretical considerations by V.A. Fabrikov
(Ref. 5: Radiotekhnika i elektronika, 1960, 5, 1, 1178 and (ref. 6:

Card 1/5

24876

S/109/61/006/007/016/020
2482 D300

Non-linear gyromagnetic ...

Dr. I-y Vsesoyuznoy konferentsii po ferritam (Minsk, 1979). The present article gives the results of experimental work of the authors, performed with the aim of determining the non-linearity of the dependence of intermediate frequency power P_{IF} on the power of local oscillator P_H in a SHF mixer, (b) determining the presence in the ferrite sample, placed in the resonant circuit of the IF of sinusoidal oscillations of magnetization under the influence of the SHF power of the local oscillator. The source of SHF was a continuous or pulse modulated klystron generator (Klystron type 45-N (45-1)). The ferrite sample with the coil was placed in a section of a standard waveguide at a distance of 6 mm from the narrow wall of the waveguide. Frequency range was 3 cm. IF was 10 cm, IF was 30 Mc/s. The effective Q of the resonant oct was 20 at 30 Mc/s. The constant magnetic field was applied parallel to the narrow wall of the waveguide. Its magnitude was corresponding to that of the ferromagnetic resonance. The ferrite sample was a mono crystal of yttrium ferrite having the ferromagnetic resonance and 5-10 oersteds. The shape of the sample was nearly spherical with unlapped

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Non-linear gyromagnetic ...

tion in the magnetized ferrite placed in the resonator of the IF were observed under the influence of a SHF transverse field when the power of the field exceeded a certain critical value of the order of 1-5 watts. It is in this interval of the powers of the sinusoidal and aperiodic fields that the relaxation phenomena are observed by M.P. Denis in a ferrite placed in a high Q cavity resonator (Ref. 9: Microwave and low frequency oscillations due to resonance instabilities in ferrites, *Phys. Rev. Letters*, 1967, 1, 2, 205). The existence was also observed of a non-linear relation of the characteristics of IF signals to the power of the local oscillator power P_H in mixing arrangements in which P_H was near the critical power P_{02} . These results are in agreement with the theory of non-linear gyromagnetic effects related to the rotation of ferrite magnetization (Refs. 5 and 6: Op. cit.). The final identification of these experimentally observed effects will be possible after their careful quantitative analysis. The above results may be of practical interest in problems of increasing the efficiency of SHF ferrite mixers. The experiment was carried out at the Voskovskiy Center.

24876

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D362 D366

Non-linear gyromagnetic ...

geticheskii institut, K. I. Ibraheimovskii i. i. radiotekhnika.
(Moscow Power Engineering Institute, Department of Theoretical
Principles of Radio-Engineering). The results of the experiment
were discussed in the paper of K. I. Ibraheimovskii. Abstracts notes:
No further data given. There are 2 figures and 1 table. 1. 2.
Soviet-bloc and 3 non-soviet. The reference is to the original
language publications as follows: 1. Ibraheimovskii, K. I. The efficiency of
a ferrite waveguide mixer. Izv. Vuzov. Radiofizika, 1964, 7, 1, 10.
10. 11. 12. Ibraheimovskii, K. I. Relaxation of the magnetization and
ferromagnetic resonance. Radiotekhnika i Elektronika, 1964, 9, 1, 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 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2012. 2013. 2014. 2015. 2016. 2017. 2018. 2019. 2020. 2021. 2022. 2023. 2024. 2025. 2026. 2027. 2028. 2029. 2030. 2031. 2032. 2033. 2034. 2035. 2036. 2037. 2038. 2039. 2040. 2041. 2042. 2043. 2044. 2045. 2046. 2047. 2048. 2049. 2050. 2051. 2052. 2053. 2054. 2055. 2056. 2057. 2058. 2059. 2060. 2061. 2062. 2063. 2064. 2065. 2066. 2067. 2068. 2069. 2070. 2071. 2072. 2073. 2074. 2075. 2076. 2077. 2078. 2079. 2080. 2081. 2082. 2083. 2084. 2085. 2086. 2087. 2088. 2089. 2090. 2091. 2092. 2093. 2094. 2095. 2096. 2097. 2098. 2099. 2100. 2101. 2102. 2103. 2104. 2105. 2106. 2107. 2108. 2109. 2110. 2111. 2112. 2113. 2114. 2115. 2116. 2117. 2118. 2119. 2120. 2121. 2122. 2123. 2124. 2125. 2126. 2127. 2128. 2129. 2130. 2131. 2132. 2133. 2134. 2135. 2136. 2137. 2138. 2139. 2140. 2141. 2142. 2143. 2144. 2145. 2146. 2147. 2148. 2149. 2150. 2151. 2152. 2153. 2154. 2155. 2156. 2157. 2158. 2159. 2160. 2161. 2162. 2163.

CIBIRAS, P., kand. med. nauk; DAKTARAVICIENE, E., kand. med. nauk;
JARZEMSKAS, J., kand. med. nauk [deceased]; JOCEVICIENE, A.,
kand. med. nauk; KRIKSTOFAITIS, M., kand. med. nauk; NENISKIS, J.,
kand. med. nauk; STEPONAITIENE, L., kand. med. nauk; SUREKUS, J.,
kand. med. nauk; SIIMANAS, S., kand. biolog. nauk; CEPULIS, St.,
prof.; KUPCINSKAS, J., prof.; LASAS, Vl., prof.; SIDERAVICIUS, Br.,
prof.; KANOPKA, E., dots.; KVIKLYS, V., dots.; LABANAUSKAS, K.,
dots.; POLUKORDAS, H., dots.; BABUBLYS, P., doktor; CAPKEVICIUS, V.,
doktor; MAKARIUNAS, P., doktor; PAKONAITIS, P., doktor; STUOKA, R.,
doktor; SURGAILIS, H., doktor; PAULIUKONIENE, J., red.; ANAITIS, J.,
tekm. red.

[Health and diseases] Antrasis pataisytas leidimas. Vilnius,
Valstybine politines ir mokslines literaturos leidykla, 1961. 356 p.
(MIRA 15:3)

(HYGIENE) (PATHOLOGY)

Polina, R.

Lacquer in high-voltage electrical engineering . p. 1101.

Vol. 43, no. 10, Oct. 1954
ELEKTROTEKHNIČESKY OČASNIK
Praha, Czechoslovakia

Source: East European Accessions Unit. Library of Congress
Vol. 5, No. 1, August 1956

Makarius, K.

Problems of the insulation of large rotary machines. p. 207
ELEKTROTECHNICKY OBZOR. (Ministerstvo strojirenstvi a Ministerstvo
paliv a energetiky) Praha. Vol. 45, no. 4, Apr. 1956

Source: EEAL LC Vol. 5, No. 10 Oct. 1956

MAKARIUS, K:

A review of electric insulators for higher temperatures which have not yet been introduced in our country. p. 30.

(Strojneoelektrotechnický Casopis. Vol. 8, no. 1, 1957. Bratislava, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

MAKARIUS, K.

"Problems of surface treatment of electric equipment for tropical regions."

ELEKTROTECHNIK, Praha, Czechoslovakia, Vol. 14, no. 5, May 1959

Monthly List of East European Accessions Index (EEAI), Library of Congress,
Vol. 8, No. 8, August 1959

Unclassified

MAKARIUS, Karel, inz.

Adhesive electric insulations. El tech obzor 52 no.8:427-432
Ag '63.

MEMORANDUM FOR THE DIRECTOR

1. On 12/12/77, the following information was received from the

MAKARIY, VASIL'YEVICH POTAPOV.

26369 (Spetsialist v oblasti gidrotekhniki 1887 - 1949. Nekrolog). - Podpisi:
Glav. Upr. Vodnogo khozyaystva M-va sel'skogo khozyaystva SSSR. Vsesoyuz. Nauch-
issled in-t gidrotekhniki i melioratsii i mosk. Gidromeliorat. In-t im. V. R.
Vil'yamsa. Gidrotekhnika i melioratsiya, 1949, No. 2, s. 70-71 s. portr.

SC: LETOFIS' NO. 35, 1949

BENES, F., ~~ins.~~, CSc.; VRSEK, J., inz.; MAKARJEV, P., inz.;
OLEJ, J., inz.

Quality characteristics and structure of low-carbon steels
in continuous casting. Hut listy 18 no. 12:850-858 D⁸ 62.

1. Vyzkumny ustav hutnictvi zeleza, Praha (for all except Olej).
2. Svermove zelezarne, Podbrezova (for Olej).

E 63582-65 RPT(c)/EPH/EPA(B)-2/RPA(v)-2/ENP(i)/ENP(k)/ENA(c)/ENT(m)/E-P(1)/EPA(nb)-2/
ENP(b)/T/ENP(e)/ENP(y)/ENP(t) Pc-l/Pf-l/Pr-l/Ps-l/Pt-7/Pab-10 RM/WH/WJ/JD/HK

ACCESSION NR: AP5015364

OR/Q286/65/000/009/0114/0114
621.791.06.364

AUTHOR: Makarkin, A. Ya.; Matelkin, I. I.

TITLE: Method of brazing ceramics to metals. Class 49, No. 170826

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 114

TOPIC TAGS: brazing, ceramic brazing, brazing alloy, ceramic to metal brazing, ceramic bonding

ABSTRACT: This Author Certificate introduces a method of brazing ceramics to metals in which the ceramic part is coated with metal-lizing paste to facilitate bonding. To increase the strength of the joint and to simplify the process, the parts to be brazed are put together, the brazing alloy is placed over the paste, and the parts are heated up to the brazing temperature. [ND]

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po elektronnoy tekhnike SSSR (Organisation of the State Committee for Electronic Engineering, SSSR)

Cord 1/2